

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A computer program product residing on a computer readable storage medium comprising instructions, including a branch instruction that when executed on a computing device causes the computing device to: comprises:  
a ~~branch instruction that causes~~ cause an instruction stream to branch to an another instruction in the instruction stream based on ~~any specified~~ a bit of a specified register being set or cleared ~~and that specifies, the branch instruction specifying~~ which bit of the specified register to use as a branch control bit.
2. (Currently amended) The ~~computer program product instruction~~ of claim 1 ~~further comprising, wherein the branch instruction comprises~~  
a bit \_postion field that specifies the bit position of the branch control bit in a longword contained in a register.
3. (Currently amended) The ~~instruction~~ computer program product of claim 1 ~~further comprising, wherein the branch instruction comprises~~  
a branch target field specified as a label in the instruction.
4. (Currently amended) The ~~instruction~~ computer program product of claim 1 ~~further comprising, wherein the branch instruction comprises~~  
an optional token that is set by a programmer and specifies a number i of instructions to execute following the branch instruction before performing the branch operation.

5. (Currently amended) The ~~instruction~~ computer program product of claim 1 ~~further comprising: , wherein the branch instruction comprises~~  
an optional token that is set by a programmer and specifies a number i of instructions to execute following the branch instruction before performing the branch operation where the number of instructions can be specified as one, two or three.
6. (Currently amended) The ~~instruction~~ computer program product of claim 1 wherein the register is a context-relative transfer register or a general-purpose register that holds the operand.
7. (Currently amended) The ~~instruction~~ computer program product of claim 1 ~~further comprising: , wherein the branch instruction comprises~~  
an optional token that is set by a programmer and which specifies a guess...branch prefetch for the instruction for the "branch taken" condition rather than the next sequential instruction.
8. (Cancelled)
9. (Currently amended) The ~~instruction~~ computer program product of claim 1 wherein the branch instruction allows a programmer to select which bit of the register to use to determine the branch operation.
10. (Currently amended) The ~~instruction~~ computer program product of claim 1 wherein the ~~instructions~~ branch instruction allows branches to occur based on evaluation of a bit that is in a data path of a processor.
11. (Currently amended) A method of operating a processor comprises:

evaluating a ~~specified~~ bit of a ~~specified~~ register designated to use as a branch control bit, the bit of the register and the register being specified in a branch instruction;  
and

performing a branching operation based on the specified bit of the specified register being set or cleared.

12. (Original) The method of claim 11 wherein the specified bit position is in a longword contained in a register.

13. (Currently amended) The method of claim 11 further comprising:  
branching to ~~an~~ another instruction at a branch target field specified as a label in the instruction.

14. (Original) The method of claim 11 wherein the specified bit is specified by a programmer.

15. (Original) The method of claim 11 further comprising:  
executing a number i of instructions following execution of the branch instruction before performing the branch operation based on evaluating an optional token that is set by a programmer.

16. (Original) The method of claim 11 wherein the register is a context-relative transfer register or a general-purpose register that holds the operand.

17. (Original) The method of claim 11 further comprising:  
prefetching a branch taken instruction based on an optional token that is set by a programmer, and which specifies a guess\_branch prefetch for the instruction for the "branch taken" condition rather than the next sequential instruction.

18. (Cancelled)

19. (Original) The method of claim 11 wherein the instruction allows a programmer to select which bit of the specified register to use to determine the branch operation.

20. (Original) The method of claim 11 wherein branch evaluation occurs based on evaluation of bits that are in a data path of the processor.

21. (Currently amended) A processor comprises:  
a register stack;  
an arithmetic logic unit coupled to the register stack and a program control store that stores a branch instruction that causes the processor to:  
evaluate a ~~specified~~ bit of a ~~specified~~ one of the registers of the register stack, the specified bit designated to use as a branch control bit, the bit and the one of the registers of the stack being specified in the branch instruction; and  
perform a branching operation specified by the branch instruction based on the specified bit of the register being set or cleared.

22. (Original) The processor of claim 21 wherein the specified bit is in a longword in a general purpose register.

23. (Currently amended) The processor of claim 21, wherein the branch instruction comprises further comprising:  
a branch target field specified as a label in the branch instruction.

24. (Original) The processor of claim 21 wherein the specified bit is specified by a programmer.

25. (Currently amended) The processor of claim 21 wherein the register one of the registers is a context-relative transfer register or a general-purpose register that holds an operand.